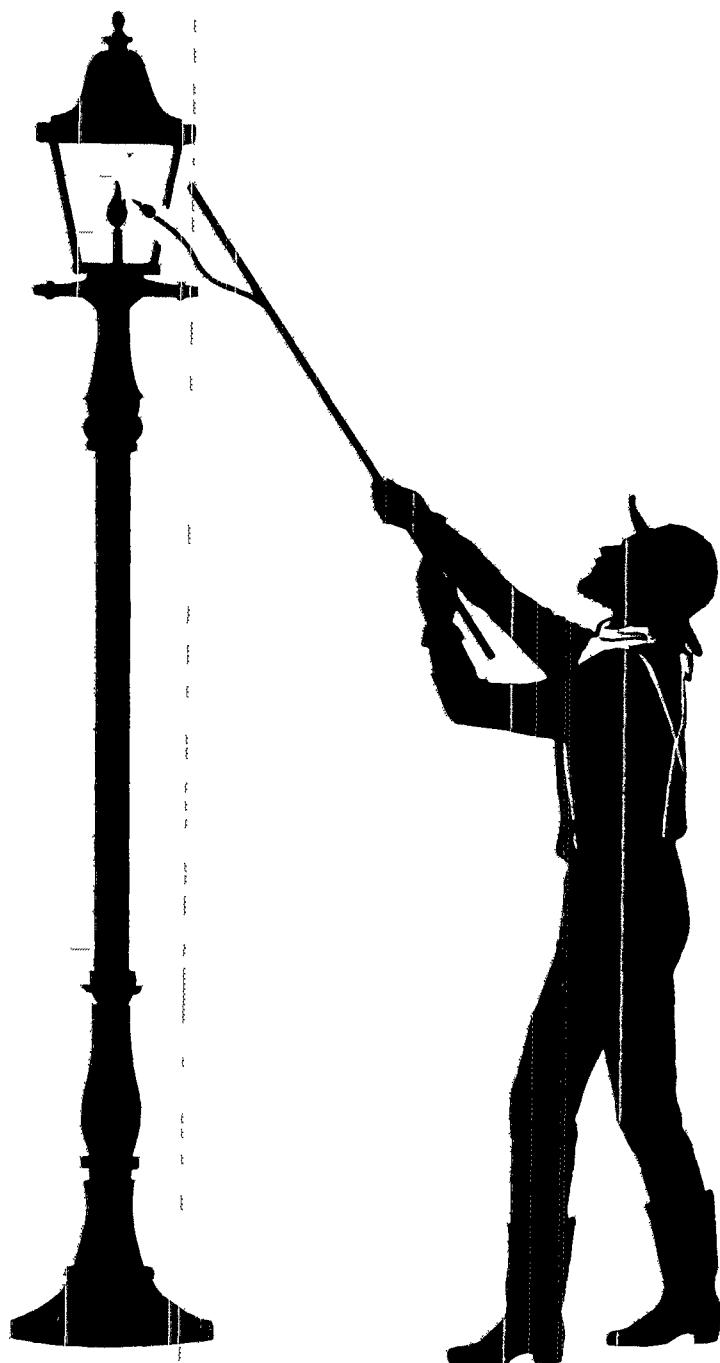


PRELIMINARY ASSESSMENT OF THE FORMER MANUFACTURED GAS PLANT SITE IN THE CITY OF SAN FRANCISCO

SITE GG-SF-NOB



**PACIFIC GAS AND ELECTRIC COMPANY
DECEMBER 1986**

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EXECUTIVE SUMMARY

The purpose of this report is to evaluate the environmental conditions of the PGandE-owned portion of the former gas manufacturing plant site bounded by Laguna, Bay, Webster, and Beach Streets in San Francisco's Marina District (Site GG-SF-NOB).

The plant was built in 1891 by the San Francisco Gas Light Company and remained in operation until it was destroyed in the great earthquake and fire of 1906. The PGandE-owned portion of the site is an unmanned PGandE substation. The substation site is fenced and accessible to employees who enter the site for maintenance. Because of the neighborhood's maturity, it is unlikely that the current land uses will change in the future.

Site drainage is northeast toward San Francisco Bay via the municipal storm drain system. There are no potable water wells within 500 feet of the site.

The site is completely paved with asphalt; therefore, soil samples were not collected.

This site does not appear to warrant interim management measures or immediate in-depth characterization.

INTRODUCTION

Prior to the availability of natural gas, gas used for lighting, cooking and heating was manufactured from coal and oil. Pacific Gas and Electric (PGandE) recently discovered residues from former gas manufacturing plants at PGandE facilities in San Rafael and Daly City. Concurrently, the Environmental Protection Agency issued results of a study identifying 54 former manufactured gas plant sites in PGandE's service area. Since some of the constituents in gas plant residues are classified as potentially hazardous, and considering that residues may remain at other gas plant sites, PGandE embarked on a program to: (1) identify all former gas manufacturing sites within its service area; (2) notify current owners of sites no longer owned by PGandE about the existence of the gas manufacturing plants; (3) conduct potable water well and surface soil tests at PGandE-owned sites to identify any immediate exposure risks to human health or the environment from residues present at the sites; (4) conduct, at the request of third-party site owners, tests of exposed surface soil for the presence of gas plant residues; and (5) notify and coordinate activities with federal and state regulatory agencies, local agencies and public officials.

In January 1985, PGandE began historical research and title searches to identify former gas plant sites in its service area. As of November 1986, approximately 100 sites have been identified, 33 of which are presently owned, in whole or in part, by PGandE. Current third-party owners of all sites have been notified by PGandE as to the existence of the former gas plant on their property and informed that gas manufacturing residues may remain at the site.

Using the results of initial site inventories, historical background searches, and potable water well and surface soil tests, this preliminary site assessment has been prepared for 32 PGandE-owned sites. (In 1985, a detailed study of the 33rd PGandE-owned site, San Rafael, was concluded and remedial actions for that site were initiated.) The purpose of these preliminary assessments is to: (1) evaluate the environmental conditions of each site to determine whether immediate exposure risks exist to human health or the environment; and (2) identify any appropriate management measures to mitigate potential exposure at PGandE-owned sites.

A history of the former gas manufacturing plant, descriptions of current site uses and physical site characteristics, site maps and photographs are provided in this assessment.

Exposed surface soil, if present, was sampled at each site and tested for arsenic, lead, mercury, cyanide, and polynuclear aromatic hydrocarbons (PNAs). Potable water wells within a 500-foot radius of each site were sampled for priority pollutant metals and PNAs. The analytical results have been used to draw preliminary conclusions about each site and to assign priorities for more detailed site analysis.

The title and ownership information contained herein is based on investigations conducted by PGandE of public records, and may not necessarily reflect recent conveyances. PGandE makes no warranty or representation concerning the accuracy or completeness of such information.

**HISTORICAL SUMMARY
OF THE
FORMER MANUFACTURED GAS PLANT
IN THE
CITY OF SAN FRANCISCO
(NORTH BEACH)**

PG^{and}E
October, 1986

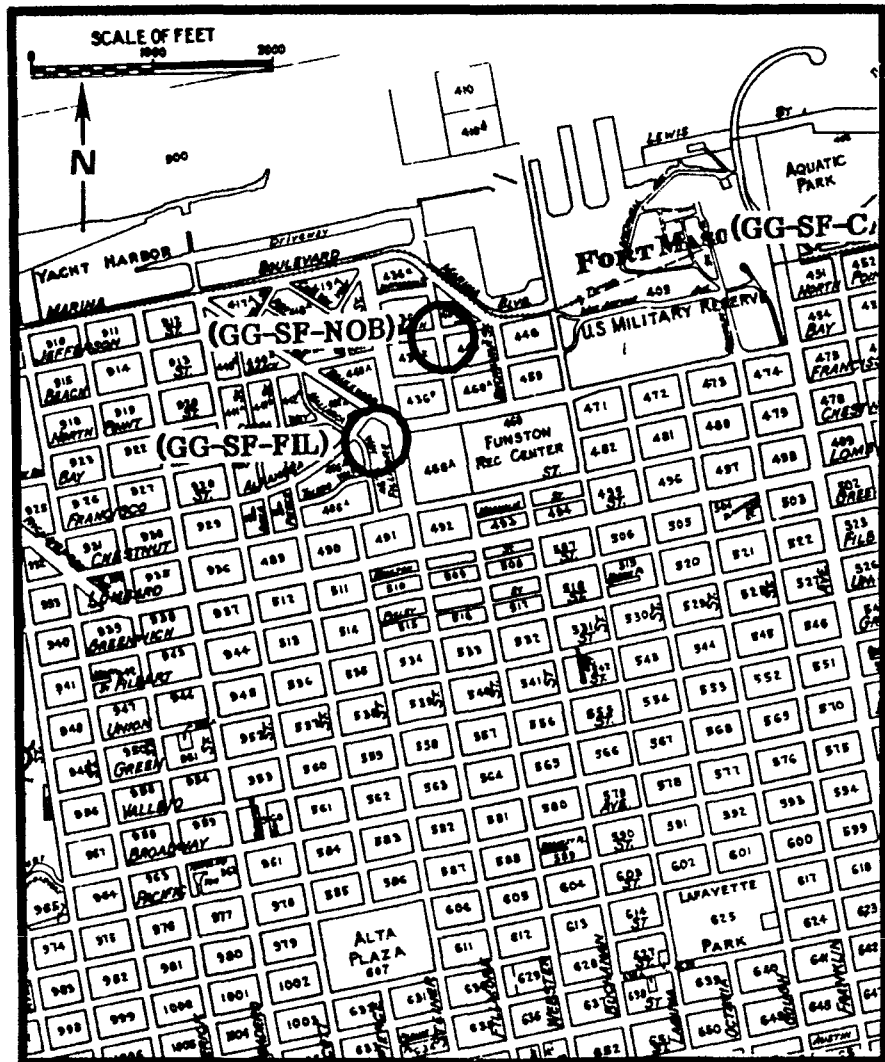
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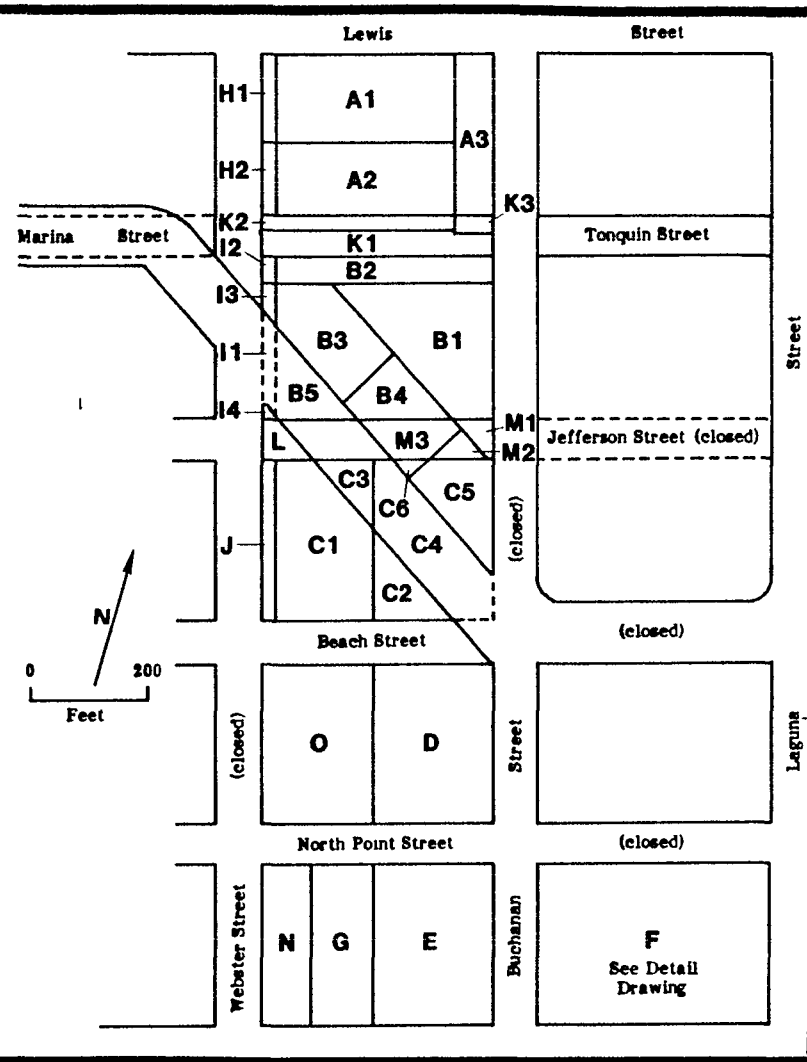
The North Beach Gas Plant
(GG-SF-NOB), 1891-1906

Summary

This gas plant—built in 1891 by the San Francisco Gas Light Company—was a large and modern coal and water-gas plant. It was located in the block bounded by Laguna, Bay, Webster, and Beach Streets and remained in operation until it was destroyed in the great earthquake and fire of 1906.



Location Map



Parcel Drawing

DATA SUMMARY

San Francisco Gas Plant (GG-SF-NOB)

DATA SUMMARY FOR SITE GG-SF-NOB

| <u>Parcel</u> | <u>Assessor's Parcel Number</u> | <u>Current Owners</u> | <u>Current Land Use</u> | <u>Future Land Use</u> | | |
|-----------------------|---------------------------------|--|-------------------------|-------------------------|---|---|
| A1, A2, A3 | (Portion) 0412 | City and County of San Francisco City Hall - Civic Center | Easement | No development proposed | | |
| B1, B2, B3, B4, B5 | Portions 0421 | City and County of San Francisco City Hall - Civic Center | Easement | " | " | " |
| C1 | 0436B-001C | Cynthia Wilcox 172 Marina | Residential | " | " | " |
| | 0436B-001D | Al and Betty Rosenthal 159 Marina | Residential | " | " | " |
| | 0436B-001E | Elsie Terheyden - Trust 155 Marina | Residential | " | " | " |
| | 0436B-001F | Ivo Boccara 151 Marina | Residential | " | " | " |
| | 0436B-001G | Wells Fargo (Rock, Cindy) 145 Marina | Residential | " | " | " |
| | 0436B-001H | Henry and Wilma Fourcade 137 Marina | Residential | " | " | " |
| | 0436B-001I | Edward and Angelina Cereghino 135 Marina | Residential | " | " | " |
| | 0436B-001J | Florence McCord 129 Marina | Residential | " | " | " |
| | 0436B-001K | Eva Biagini 115 Marina | Residential | " | " | " |
| | 0436B-001M | Fred Biagini 123 Marina | Residential | " | " | " |
| | 0436B-001N | Jack and Eleanor West 165 Marina | Residential | " | " | " |
| | 0436B-002 | Sau Sum and Saw Loo 1540 Beach (785 Market) | Residential | " | " | " |
| | 0436B-003 | Louis and Virginia Iacona 1550 Beach | Residential | " | " | " |
| | 0436B-004 | Gil Nickel 1554 Beach | Residential | " | " | " |
| | 0436B-005 | Fedora Martinelli 1580 Beach | Residential | " | " | " |
| C2 | 0436B-001L | Victor and Margaret Fung 101 Marina | Residential | " | " | " |
| C3, C4 | NA | City and County of San Francisco City Hall - Civic Center | Easement | " | " | " |

Data Summary (continued)

| Parcel | Assessor's Parcel Number | Current Owners | Current Land Use | Future Land Use | | |
|--------|--------------------------|---|------------------|-------------------------|---|---|
| C5, C6 | NA | City and County of San Francisco City Hall - Civic Center | Easement | No development proposed | | |
| D | 0445A-001A | Mary Morin 1517-1521 Beach | Residential | " | " | " |
| | 0445A-002 | Vincent Barsechini 3745 Buchanan | Residential | " | " | " |
| | 0445A-003 | First Nationwide Savings (Kelly, Kevin) 700 Market | Residential | " | " | " |
| | 0445A-004 | Marina Partners 3725 Buchanan | Residential | " | " | " |
| | 0445A-005 | James Kelleher 3717 Buchanan | Residential | " | " | " |
| | 0445A-005A | Frank Cala 3701 Buchanan | Residential | " | " | " |
| | 0445A-006 | Virginia DiGrande 1629 North Point | Residential | " | " | " |
| | 0445A-007 | Thomas and Nancy Mavrides 1632 North Point | Residential | " | " | " |
| | 0445A-008 | Marguerite Reginato 1638-1640 North Point | Residential | " | " | " |
| | 0445A-028 | Wanda Castro 1539 Beach | Residential | " | " | " |
| | 0445A-029A | Alfred Thomas 1525-1527 Beach | Residential | " | " | " |
| | 0445A-030 | John and Lois Williams and James and Ellen Peterson 1529 Beach | Residential | " | " | " |
| | 0445A-031 | Frederick and Nancy Verhey 1531 Beach #2 | Residential | " | " | " |
| | 0445A-032 | James and Ellen Peterson 1533 Beach #3 | Residential | " | " | " |
| | 0445A-033 | John T. and Lois William 1529 Beach | Residential | " | " | " |
| | 0445A-034, 035, 036 | First Nationwide Savings (Kelly, Kevin) 1501 Beach, #101, #102, #103 | Residential | " | " | " |
| | 0445A-037 | William and Esther Gellen 1501 Beach #201 | Residential | " | " | " |
| | 0445A-038 | Yoshito and Mari Shibata 1501 Beach #202 | Residential | " | " | " |
| | 0445A-039, 040, 041 | Marina Point Associates c/o Glen Lam 1501 Beach #203, #301, #302 | Residential | " | " | " |
| | 0445A-042 | Robert M. Jaffe 1501 Beach #401 | Residential | " | " | " |
| | 0445A-043 | Peter T.C. Chow 1501 Beach #402 | Residential | " | " | " |

Data Summary (continued)

| Parcel | Assessor's Parcel Number | Current Owners | Current Land Use | Future Land Use |
|----------------|--------------------------|--|------------------|-------------------------|
| E | 0460A-001 | Bulsach Partners 3661 Buchanan | Residential | No development proposed |
| | 0460A-001A | Peter and Eleanor Paladini 1609-1611 North Point | Residential | " " " |
| | 0460A-001B | Gloria Eckstein 1617-1619 North Point | Residential | " " " |
| | 0460A-002 | Jessie and Jerome Tinling 3653 Buchanan | Residential | " " " |
| | 0460A-003 | Menahem Cohen 3645 Buchanan | Residential | " " " |
| | 0460A-004 | Regina Granucci 3631-3635 Buchanan | Residential | " " " |
| | 0460A-005 | Anthony and Juliette Vlantis 3623 Buchanan | Residential | " " " |
| | 0460A-006 | Norma Andreotti, Frances Podesta and Shell Oil Co. 1600 Bay | Residential | " " " |
| | 0460A-007 | Giacomo and Adrienne Recca Trustees 1624 Bay | Residential | " " " |
| | 0460A-008 | Woot Yee Leung 1630 Bay | Residential | " " " |
| | 0460A-009 | Sabina Giorgetti 1640 Bay | Residential | " " " |
| | 0460A-026 | Lillian Bacigalupi 1645 North Point | Residential | " " " |
| | 0460A-027 | Rico and Angelina Tognotti 1639 North Point | Residential | " " " |
| | 0460A-028 | Mary Strebl 1631-1633 North Point | Residential | " " " |
| | 0460A-029 | Susie Pieri 1625 North Point | Residential | " " " |
| F1, F2, F3, F4 | 0459-003 | HMS Partnership (Pacific Union Company) 3640 Buchanan | Office | " " " |
| | 0459-005 | John Hancock Mutual Life Insurance 1550 Bay | Office | " " " |
| | 0459-007 | Chevron USA, Inc. 1598 Bay | Office | " " " |
| | 0459-008 | Franklin and Dorothy Franco 1500 Bay #101 | Residential | " " " |
| | 0459-009 | William Kruppenbacher 3501 Laguna | Residential | " " " |
| | 0459-010 | Bob Levie and Associates Inc. c/o California Mart LA 1500 Bay #103 | Residential | " " " |

Data Summary (continued)

| Parcel | Assessor's Parcel Number | Current Owners | Current Land Use | Future Land Use |
|-------------------------------|--------------------------|--|------------------|-------------------------|
| F1, F2, F3, F4 (continued) | 0459-011 | Josef Beliso 1500 Bay #104 | Residential | No development proposed |
| | 0459-012 | Paul and Marilyn Schmidt 1500 Bay #105 | Residential | " " " |
| | 0459-013 | Ali Kazerouni 1500 Bay #106 | Residential | " " " |
| | 0459-014 | Lilia Battaglia 1500 Bay #107 | Residential | " " " |
| | 0459-015 | Reevyn Arokson 1500 Bay #108 | Residential | " " " |
| | 0459-016 | Cassandra Kelling 1500 Bay #201 | Residential | " " " |
| | 0459-017 | Ted Cohn 1500 Bay #202 | Residential | " " " |
| | 0459-018 | Harrison and Barbara Frank 1500 Bay #203 | Residential | " " " |
| | 0459-019 | Faustino Roxas 1500 Bay #204 | Residential | " " " |
| | 0459-020 | Elsie Ho - Trustee 3501 Laguna #205 | Residential | " " " |
| | 0459-021 | Susan Krisnowich 1500 Bay #206 | Residential | " " " |
| | 0459-022 | Sergio and Margaret Misztal 1500 Bay #207 | Residential | " " " |
| | 0459-023 | Romeo Cruz 1500 Bay #208 | Residential | " " " |
| | 0459-024 | Anna Uhrig and Joseph and Mary Lauricella 1500 Bay #301 | Residential | " " " |
| | 0459-025 | Alice Low 1500 Bay #302 | Residential | " " " |
| | 0459-026 | Jackie Charmant 1500 Bay #303 | Residential | " " " |
| | 0459-027 | Ronald Ziezsckman 3501 Laguna #304 | Residential | " " " |
| | 0459-028 | Beng Lew and Lilac Tang and Wee Kit and Bernice Tang 3501 Laguna #305 | Residential | " " " |
| | 0459-029 | Pat L. Jacobson 1500 Bay #306 | Residential | " " " |
| | 0459-030 | Sarah Casari 1500 Bay #307 | Residential | " " " |
| | 0459-031 | Paul Louie c/o John Benson 3501 Laguna #308 | Residential | " " " |

Data Summary (continued)

| Parcel | Assessor's Parcel Number | Current Owners | Current Land Use | Future Land Use | | |
|------------|--------------------------|---|-----------------------|-------------------------|---|---|
| F5 | 0459-033 | City and County of San Francisco City Hall - Civic Center | Vacant | No development proposed | | |
| F6 | 0459-032 | Pacific Gas and Electric 77 Beale Street | Electrical Substation | " | " | " |
| G | 0460A-010 | Angelo and Katherine Battaglia 1650 Bay | Residential | " | " | " |
| | 0460A-011 | Gesine Stelling 1660 Bay | Residential | " | " | " |
| | 0460A-012 | Shue-Tong and Lisa Yuen Ho 1670-1672 Bay | Residential | " | " | " |
| | 0460A-016 | Gloria Valair 3524-3526 Webster | Residential | " | " | " |
| | 0460A-017 | Arthur Silberberg 3530-3532 Webster | Residential | " | " | " |
| | 0460A-018 | Candida Giovacchini and Robert and Lolita Martin 3536-3538 Webster | Residential | " | " | " |
| | 0460A-022 | Louis and Maria Muschi 1675 North Point | Residential | " | " | " |
| | 0460A-023 | Matilda Gardiner 1665 North Point | Residential | " | " | " |
| | 0460A-024 | Maria DeMartini 1657 North Point | Residential | " | " | " |
| | 0460A-025 | John and Andrea Rago 1651 North Point | Residential | " | " | " |
| | 0460A-026 | Lillian Bacigalupi 1645 North Point | Residential | " | " | " |
| H1, H2 | NA | City and County of San Francisco City Hall - Civic Center | Easement | " | " | " |
| I1, I2, I3 | NA | City and County of San Francisco City Hall - Civic Center | Easement | " | " | " |
| I4 | 0436B-001 | City and County of San Francisco City Hall - Civic Center | Easement | " | " | " |
| J | 0436B-006 | Anita Ratto 3710 Webster | Residential | " | " | " |
| | 0436B-007 | Peter and Mary Astiz 3720 Webster | Residential | " | " | " |
| | 0436B-008 | R.R. Garcia 3724 Webster | Residential | " | " | " |
| | 0436B-009 | John and Celine Wong 3730 Webster | Residential | " | " | " |

Data Summary (continued)

| Parcel | Assessor's Parcel Number | Current Owners | Current Land Use | Future Land Use |
|---------------|--------------------------|---|------------------|-------------------------|
| J (continued) | 0436B-010 | Harry and Penny Hsia 3750 Webster | Residential | No development proposed |
| | 0436B-012 | Henning and Joan Rasmussen 3760 Webster | Residential | " " " |
| K1, K2, K3 | NA | City and County of San Francisco City Hall - Civic Center | Easement | " " " |
| L | 0436B-(Portion)-001A | Alan Silverman 185 Marina | Residential | " " " |
| | 0436B-(Portion)-001B | Herma Royak 181 Marina | Residential | " " " |
| | 0436B-011 | J.H. Nicholson 199 Marina, #1 | Residential | " " " |
| M1, M2, M3 | NA | City and County of San Francisco City Hall - Civic Center | Easement | " " " |
| N | 0460A-013 | Issac and Eileen Marchasin and Zevica and Hellen Salles 1690 Bay | Residential | " " " |
| | 0460A-014 | Harold Meyer 3512-3514 Webster | Residential | " " " |
| | 0460A-015 | Vincent and Gerda Kircher 3518 Webster | Residential | " " " |
| | 0460A-019 | Edna Larsen 3542-3544 Webster | Residential | " " " |
| | 0460A-020 | Steven and Alexandra Grover 3550 Webster | Residential | " " " |
| | 0460A-021 | Sal and Neri Zagari and Paul and Meri Pieretti 1695 North Point | Residential | " " " |
| O | 0445A-009 | Nathalie Levine 1646 North Point | Residential | " " " |
| | 0445A-010 | Gustavo and Louise Dominguez - Family Trust 1650 North Point | Residential | " " " |
| | 0445A-011 | Milen and Barbara Janeff 1660 North Point | Residential | " " " |
| | 0445A-012 | Erika Tarantino 1662-1664 North Point | Residential | " " " |
| | 0445A-013 | Anita Lee 1666-1668 North Point | Residential | " " " |
| | 0445A-014 | P, N.V. c/o Golden Hills Realty 1690 North Point | Residential | " " " |
| | 0445A-015 | Rose Gunderson 3612-3614 Webster | Residential | " " " |

Data Summary (continued)

| <u>Parcel</u> | <u>Assessor's Parcel Number</u> | <u>Current Owners</u> | <u>Current Land Use</u> | <u>Future Land Use</u> |
|---------------|---------------------------------|---|-------------------------|-------------------------|
| O (continued) | 0445A-016 | Johan H. Sever Living Trust c/o Donna Stewart 3618-3620 Webster | Residential | No development proposed |
| | 0445A-017 | Josephine Sartorio 3624-3626 Webster | Residential | " " " |
| | 0445A-018 | Herman C. Hittenberger 3630 Webster | Residential | " " " |
| | 0445A-019 | Susan Levy - Trust 3636-3638 Webster | Residential | " " " |
| | 0445A-020 | Frederick and Gertrude Baer 3642 Webster | Residential | " " " |
| | 0445A-021 | Peter and Augie Cresci 3648-3650 Webster | Residential | " " " |
| | 0445A-022 | Marian Vizzard and Katherine Langbein - Trust 1585 Beach | Residential | " " " |
| | 0445A-023 | Ernest G. Jr. and Vivian Friez 1567 Beach | Residential | " " " |
| | 0445A-024 | Harry and Lillian Hambly - Trust 1561 Beach | Residential | " " " |
| | 0445A-025 | Anna Ainslie 1555 Beach | Residential | " " " |
| | 0445A-026 | Harold and Evelyn Korf 1549 Beach | Residential | " " " |
| | 0445A-027 | Herbert and Berneice Stuart 1545 Beach | Residential | " " " |

Approximate acreage of all parcels = 9.5 acres

Note: See also Summary of Chain of Title

San Francisco Gas Plant (GG-SF-NOB) - Historical Chronology

- 1890 The San Francisco Gas Light Company acquires parcels D and E at the new plant site (GG-SF-NOB) from E. Roth. Documentation of the original acquisition of parcels A and B has not been recovered.
- 1891 The San Francisco Gas Light Company constructs the North Beach petroleum gas works at Buchanan, Bay, North Point, and Laguna Streets (GG-SF-NOB). Initial daily production capacity is 2 million cubic feet.
- 1892-
1893 The "largest gas holder west of Chicago," with storage capacity of 2 million cubic feet, is constructed at the (GG-SF-NOB) site.
- 1893-
1894 Gas production facilities are greatly expanded at the plant.
- 1896 The San Francisco Gas and Electric Company is formed by the merger of the San Francisco Gas Light Corporation and the Edison Light and Power Company.
- 1897 Titles to parcels D and E (GG-SF-NOB) are acquired from the San Francisco Gas Light Company by the San Francisco Gas and Electric Company.
- 1903 The San Francisco Gas and Electric Company acquires parcels C, from W.W. Wilson, and G, from R.G. Hooker, at the site (GG-SF-NOB).
- 1906 The San Francisco Gas and Electric Company becomes the Pacific Gas and Electric Company.
- The April earthquake and fire destroy the PGandE plant at Bay and Buchanan (GG-SF-NOB), the Hyde and Jefferson Streets Equitable plant (GG-SF-CAN), and the Pacific Gas Improvement plant at Fillmore and Steiner Streets (GG-SF-FIL).
- 1908 Parcel H, from Vanderbilt and Oelrichs, and parcels I and J, from H. Law, at the site (GG-SF-NOB) are acquired by the San Francisco Gas and Electric Company.
- 1911 PGandE acquires title to parcels A through J at the site of the destroyed plant (GG-SF-NOB).
- 1917 PGandE purchases parcels K, L and M at the site (GG-SF-NOB) from the City and County of San Francisco.
- 1918 Parcels N and O at the site (GG-SF-NOB) are purchased by PGandE from the Mercantile Trust Company of California.

- 1924 PGandE sell parcels C1, C2, D, E, G, I4, J, L, N and O at the site (GG-SF-NOB) to the Mercantile Trust Company of California. (See Data Summary for current ownership.)
- 1942 PGandE sells parcels A1 and H1 at the site (GG-SF-NOB) to the City and County of San Francisco. (See Data Summary for current ownership.)
- 1943 Parcels B1 and M1 (GG-SF-NOB) are sold by PGandE to the City and County of San Francisco. (See Data Summary for current ownership.)
- 1945 PGandE sells parcels B2, I2 and K2 at the site (GG-SF-NOB) to the City and County of San Francisco. (See Data Summary for current ownership.)
- 1946 PGandE sells parcels A2, H2 and K2 (GG-SF-NOB) to the City and County of San Francisco. (See Data Summary for current ownership.)
- 1947 Parcels B3 and I3 at the site (GG-SF-NOB) are sold by PGandE to the City and County of San Francisco. (See Data Summary for current ownership.)
- 1948 PGandE sells parcels B4, C6 and M3 of the site (GG-SF-NOB) to the City and County of San Francisco. (See Data Summary for current ownership.)
- 1949 Parcels C5 and M2 (GG-SF-NOB) are sold by PGandE to the City and County of San Francisco. (See Data Summary for current ownership.)
- 1959 PGandE sells parcel F1 at the site (GG-SF-NOB) to D. MacDonough. (See Data Summary for current ownership.)
- 1967 PGandE sells parcels F2, to Phillips Petroleum Company, F3, to Lucky Stores Incorporated, and F4, to Standard Oil of California. (See Data Summary for current ownership.)
- 1982 PGandE sells parcel F5 of the site (GG-SF-NOB) to the City and County of San Francisco. (See Data Summary for current ownership.)

**A HISTORICAL OVERVIEW OF GAS MANUFACTURING IN
SAN FRANCISCO, CALIFORNIA, 1891-1906**

Site No. GG-SF-NOB

**A HISTORICAL OVERVIEW OF GAS MANUFACTURING IN
SAN FRANCISCO, CALIFORNIA, 1891-1906**

Site No. GG-SF-NOB

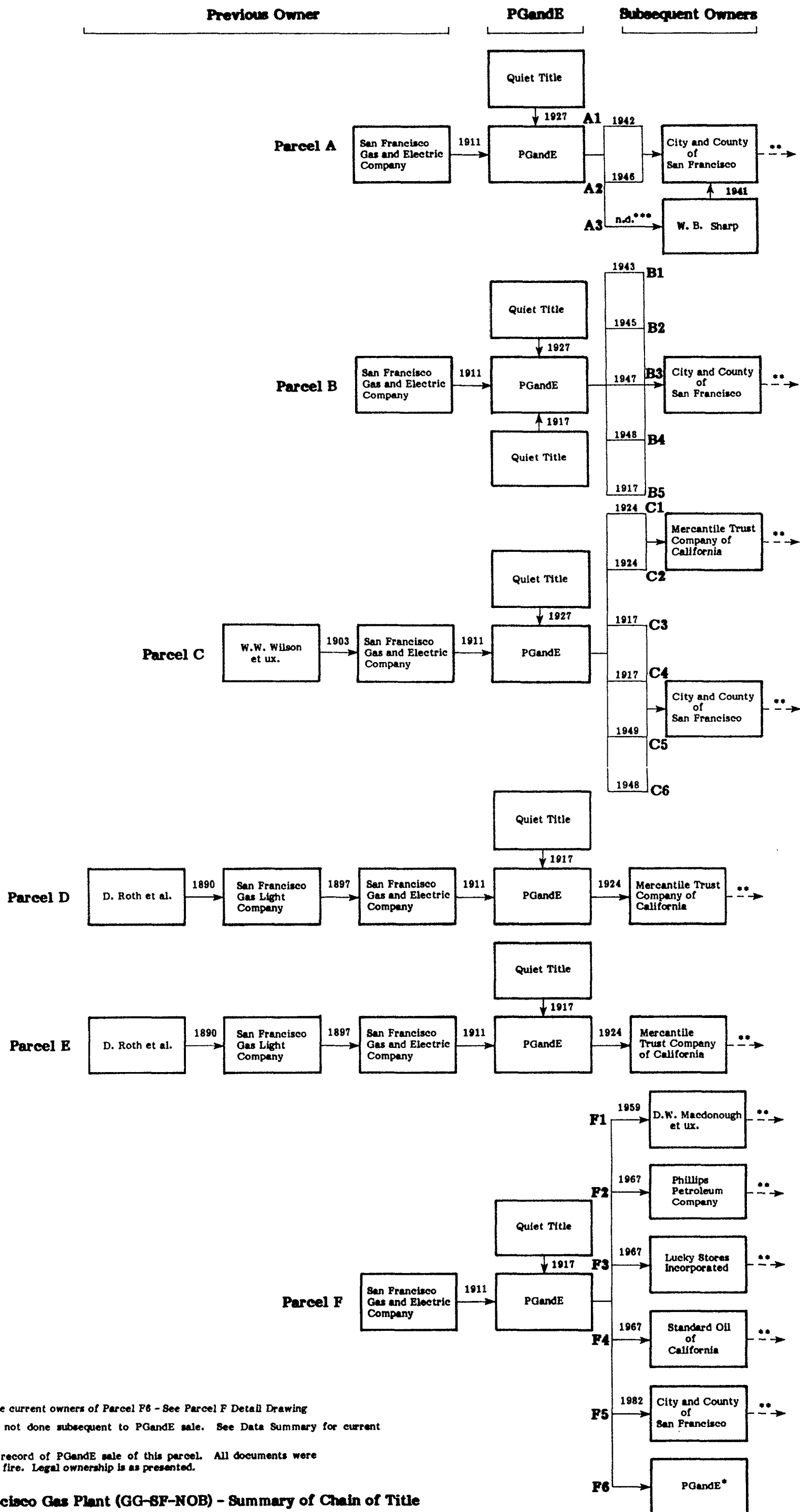
In 1891 Joseph B. Crockett, President of the San Francisco Gas Light Company, had the ambition of constructing a "thoroughly modern gas works on lines intended to care for the city's gas demands well into the future (Jones n.d.:138). As a location for a new plant Crockett and his company decided upon a site adjacent to a large gas holder this company had installed in 1886 at Bay and Buchanan. Additional land in North Beach—along San Francisco Bay and in the block bounded by Laguna, Bay, Webster, and Beach Streets—was purchased and construction began in the late Spring of 1891 (San Francisco Board of Supervisors 1886:678; 1905:617; Jones n.d.:139; California State Railroad Commission n.d.:7).

The North Beach plant was reportedly in operation by the end of 1891 and was, by all accounts, one of the finest plants in the United States (Coleman 1952:84; Jones n.d.:139). One source described its facilities as they existed in late 1891:

In up-to-date arrangement and operating convenience, this plant was not to be excelled. The gas making apparatus comprised two 12-foot diameter Springer carburetted water-gas generators of 1,000,000 cubic feet each daily capacity..." (California State Railroad Commission n.d.:7).

During 1892-1893 a giant gas holder, with two-million cubic-feet capacity, was constructed at the plant site. Upon completion, this holder was the largest in the United States west of Chicago (Jones n.d.:139; California State Railroad Commission n.d.:8). Expansion of the gas making facilities also continued during 1893-1894. During these two years, "20 Weber full depth regenerative coal gas benches" with nine retorts to each bench were built (California State Railroad Commission n.d.:8). The result of this work was a large gas works, which used both coal and oil and which never needed to produce at more than one-half capacity (California State Railroad Commission n.d.:8).

In 1893 the Sanborn Map Company produced a detailed map of the North Beach gas works of San Francisco Gas Light Company. This map shows that the coal-gas production part of the plant was in the eastern part of the block bounded by North Point, Beach, Buchanan, and Webster. Here were the coal retort house, a coal and coke pile, and a tank for crude oil. The oil-gas was generated and purified across North Point Street (to the south) in the eastern half of the block bounded by Webster, Bay, Buchanan, and North Point. Across Buchanan Street (to the east) in the block bounded by Buchanan, North Point, Laguna, and Bay were located the giant gas holder and also a smaller gas holder, a coal pile, office, and meter rooms (Sanborn Map Company 1893).

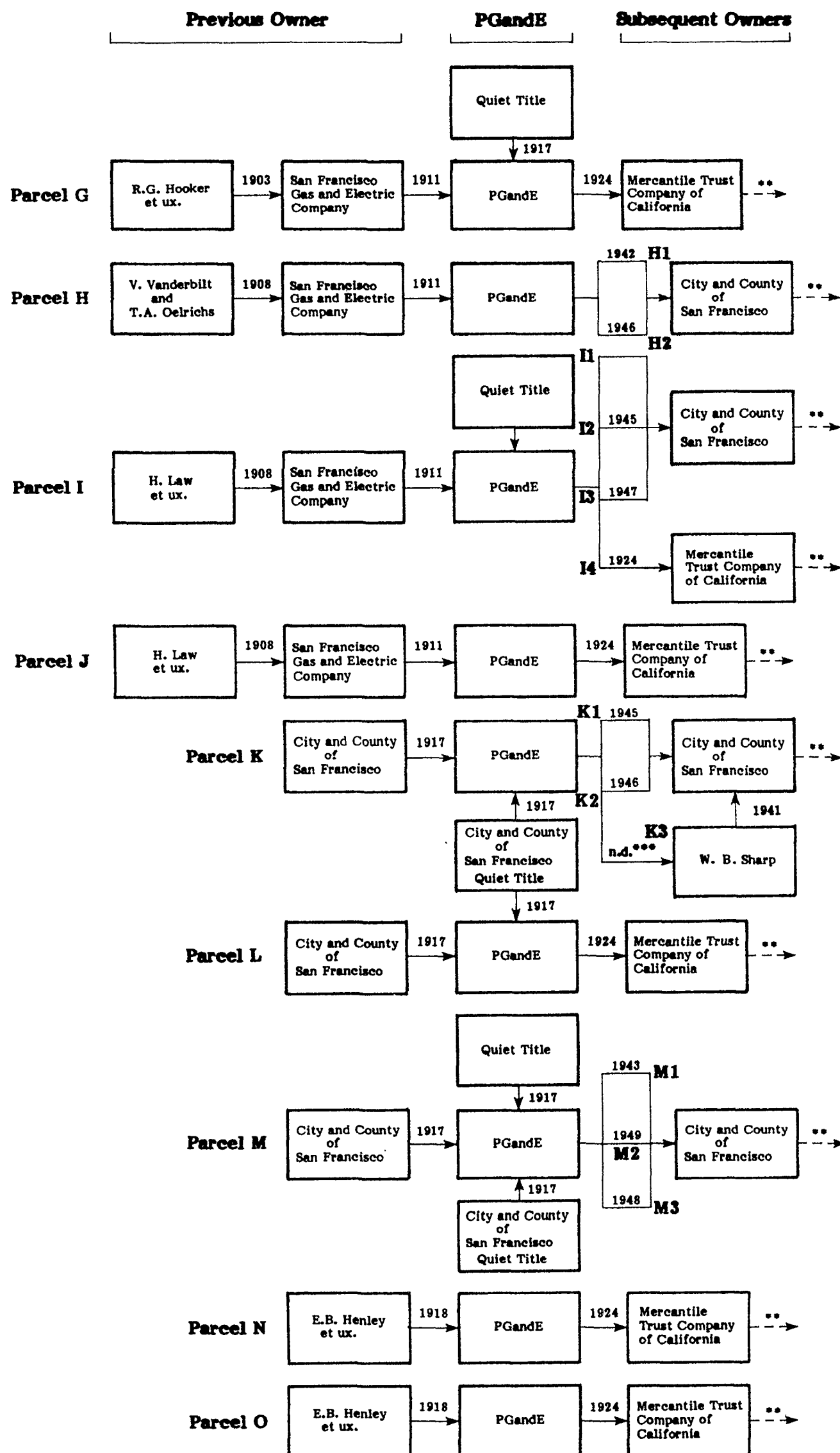


*PGandE is the current owners of Parcel F6 - See Parcel F Detail Drawing

**Title search not done subsequent to PGandE sale. See Data Summary for current owners

***There is no record of PGandE sale of this parcel. All documents were destroyed by fire. Legal ownership is as presented.

San Francisco Gas Plant (GG-SF-NOB) - Summary of Chain of Title
(See also Parcel Drawing)



**Title search not done subsequent to PGandE sale. See Data Summary for current owners

***There is no record of PGandE sale of this parcel. All documents were destroyed by fire. Legal ownership is as presented.

San Francisco Gas Plant (GG-SF-NOB) - Summary of Chain of Title
(See also Parcel Drawing)

In 1893 the San Francisco Gas Light Company had two functioning gas plants, the North Beach and the Potrero works with a combined manufacturing capacity of 6,700,000 cubic feet each 24 hours. The storage capacity of the company was estimated at 4,709,000 cubic-feet (San Francisco Board of Supervisors 1893:93-94). Another Sanborn Map of the North Beach gas works, dated 1899-1900 shows that the facility remained essentially unchanged to this point in time, except that the coal retorts in the retort house were not being used (Sanborn Map Company 1899-1900). A few years later, in 1904, it was officially estimated that the investment cost of the North Beach Gas Plant was \$969,990 (San Francisco Board of Supervisors 1905:625).

The North Beach Gas Plant continued to be a key part of the San Francisco Gas and Electric Company after the 1896 merger that created this corporation and even after the 1903 purchases of other gas works by that company. The North Beach plant was finally destroyed by the April 1906 earthquakes and fire and gas was never again produced at this location (Coleman 1952:235; Jones n.d.:141-142). The gas holders survived the quake and fire, however, and continued in use for some years thereafter as Pacific Gas and Electric Company's Buchanan Street station (Sanborn Map Company 1913).

Table 1

GAS MANUFACTURING STATISTICS FOR THE SAN FRANCISCO GAS LIGHT
COMPANY GAS PLANT 1892-1906.

| <u>Date</u> | <u>Plant(s)</u> | <u>Process</u> | <u>Annual Production (in cubic feet)</u> |
|-------------|--|------------------------------------|--|
| 1892 | GG-SF-POT GG-SF-NOB | Springer Water-Gas and Coal-Gas | 895 million |
| 1893 | GG-SF-POT GG-SF-NOB | " | 900 million |
| 1894 | GG-SF-POT GG-SF-NOB | " | 920 million |
| 1899 | GG-SF-POT GG-SF-NOB | " | 800 million |
| 1900 | GG-SF-POT GG-SF-NOB | " | 878.8 million |
| 1901 | GG-SF-POT GG-SF-NOB | Lowe Water-Gas and Coal-Gas | 900 million |
| 1902 | GG-SF-POT GG-SF-NOB | " | 900 million |
| 1903 | GG-SF-POT GG-SF-NOB | " | 1.3 billion |
| 1904 | GG-SF-POT GG-SF-NOB GG-SF-FIL GG-SF-CAN | " | 1.3 billion |
| 1905 | GG-SF-POT GG-SF-NOB GG-SF-FIL GG-SF-CAN | " | 2.5 billion |

Table 1 (continued)

| <u>Date</u> | <u>Plant(s)</u> | <u>Process</u> | <u>Annual Production (in cubic feet)</u> |
|-------------|--|--------------------------------|--|
| 1906 | GG-SF-POT GG-SF-NOB GG-SF-FIL GG-SF-CAN | Lowe Water-Gas And Coal-Gas | 2.6 billion |

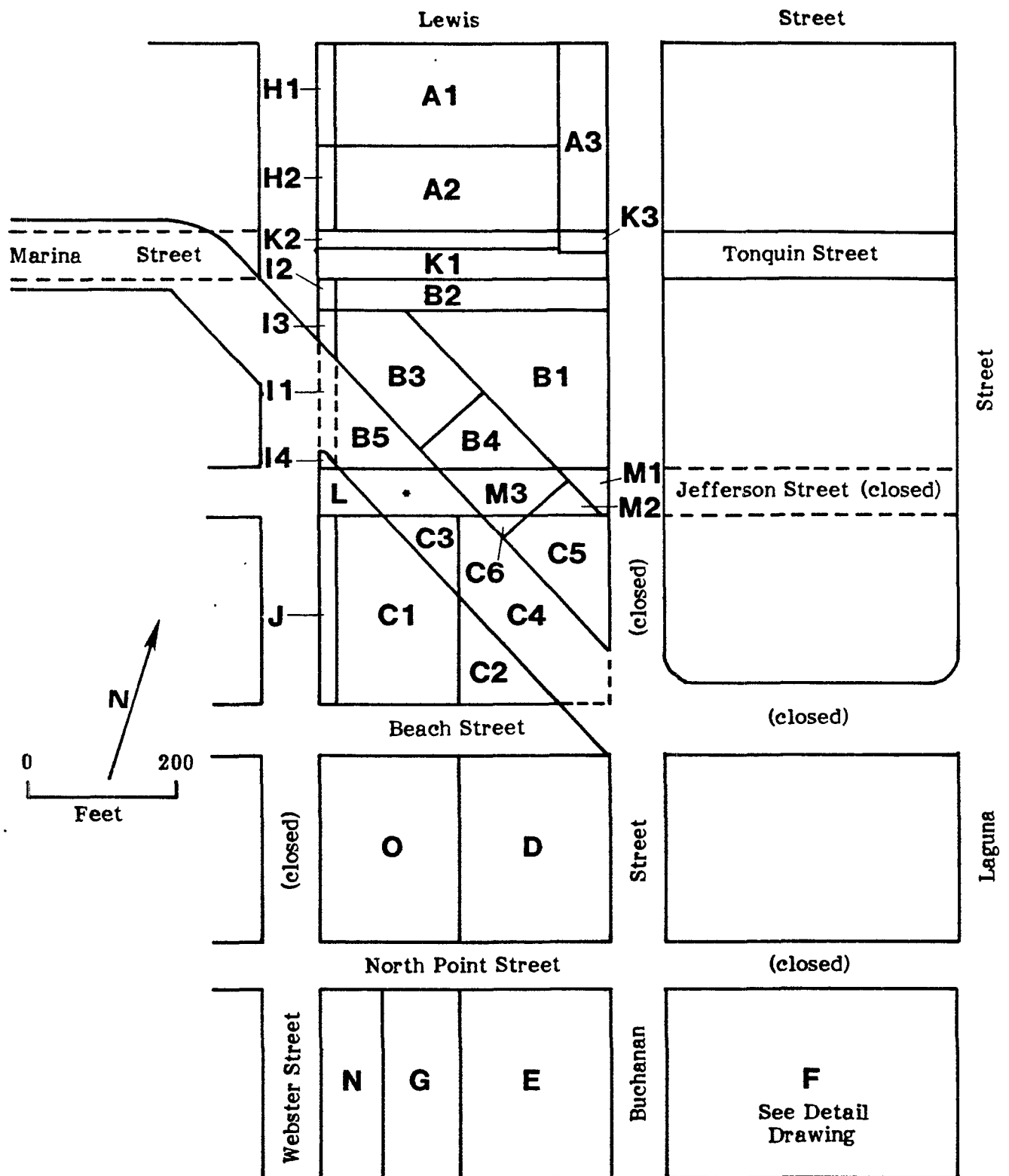
Source: Brown 1892:7; 1893:8; 1894:8; 1899:8; 1900:9; 1901:9; 1902:10;
1903:11; 1904:11; 1905:12; 1906:13

Table 2

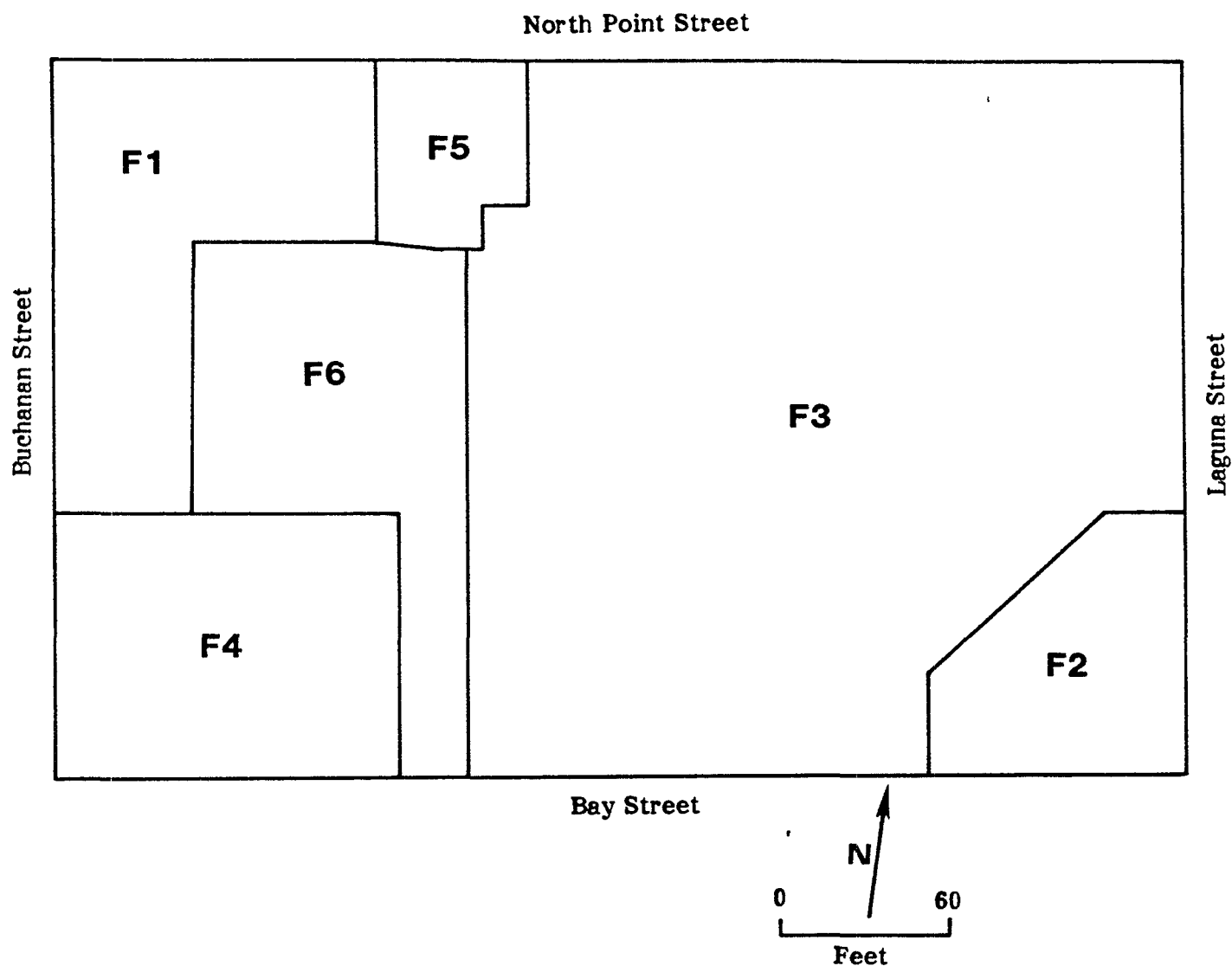
GAS MANUFACTURING STATISTICS FOR THE PACIFIC GAS AND
ELECTRIC GAS PLANT 1913-1920.

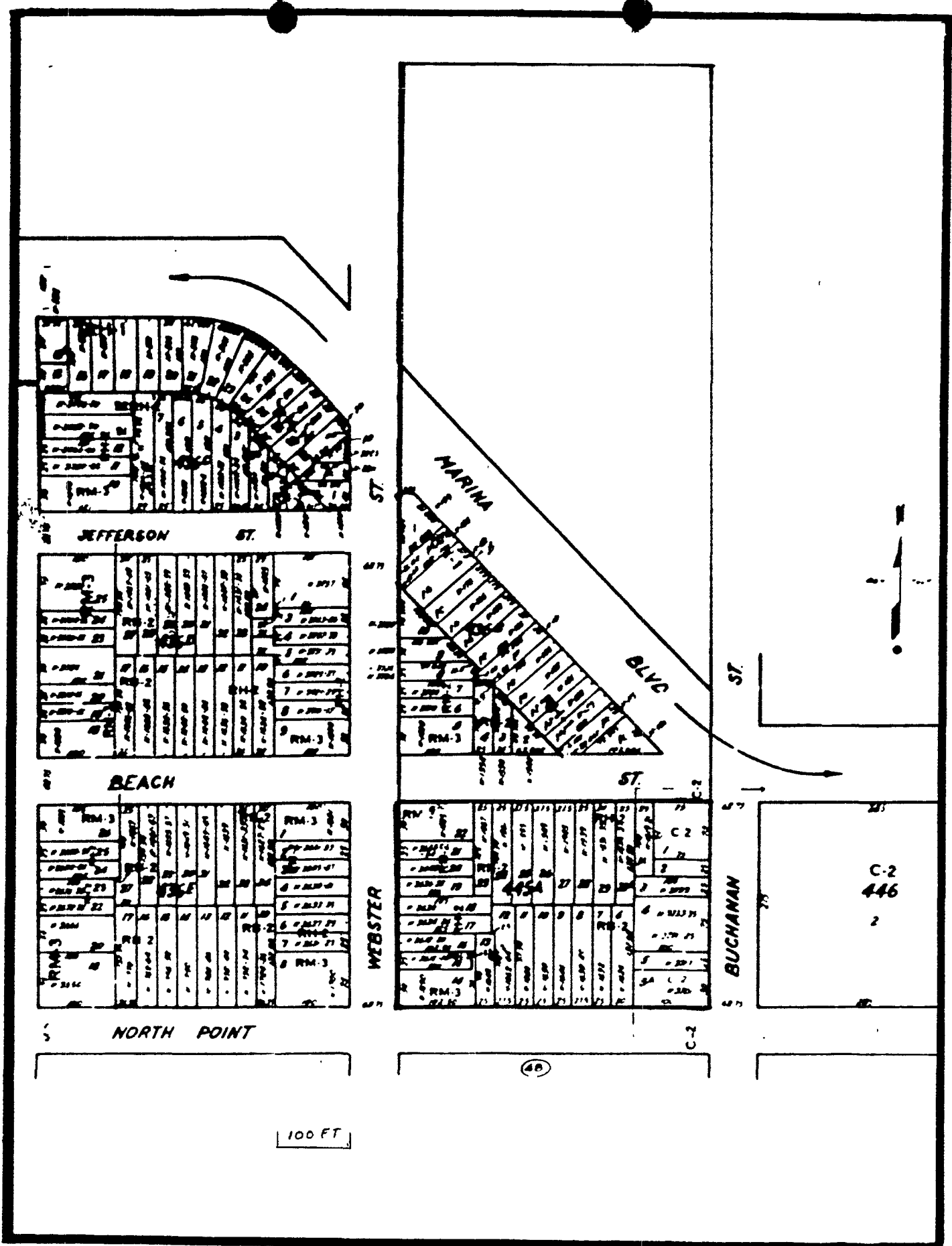
| <u>Date</u> | <u>Plant(s)</u> | <u>Process</u> | <u>Annual Production (in cubic feet)</u> |
|-------------|------------------------|------------------|--|
| 1913 | GG-SF-POT GG-SF-BCH | Lowe (crude oil) | 3.96 billion |
| 1915 | GG-SF-POT GG-SF-BCH | Jones Oil-Gas | 4.34 billion |
| 1917 | GG-SF-POT GG-SF-BCH | " | 5.6 billion |
| 1919 | GG-SF-POT GG-SF-BCH | " | 6.1 billion |
| 1920 | GG-SF-POT GG-SF-BCH | " | 6.1 billion |

Source: Brown 1913:21; 1915:24; 1917:23; 1919:122; 1920:444



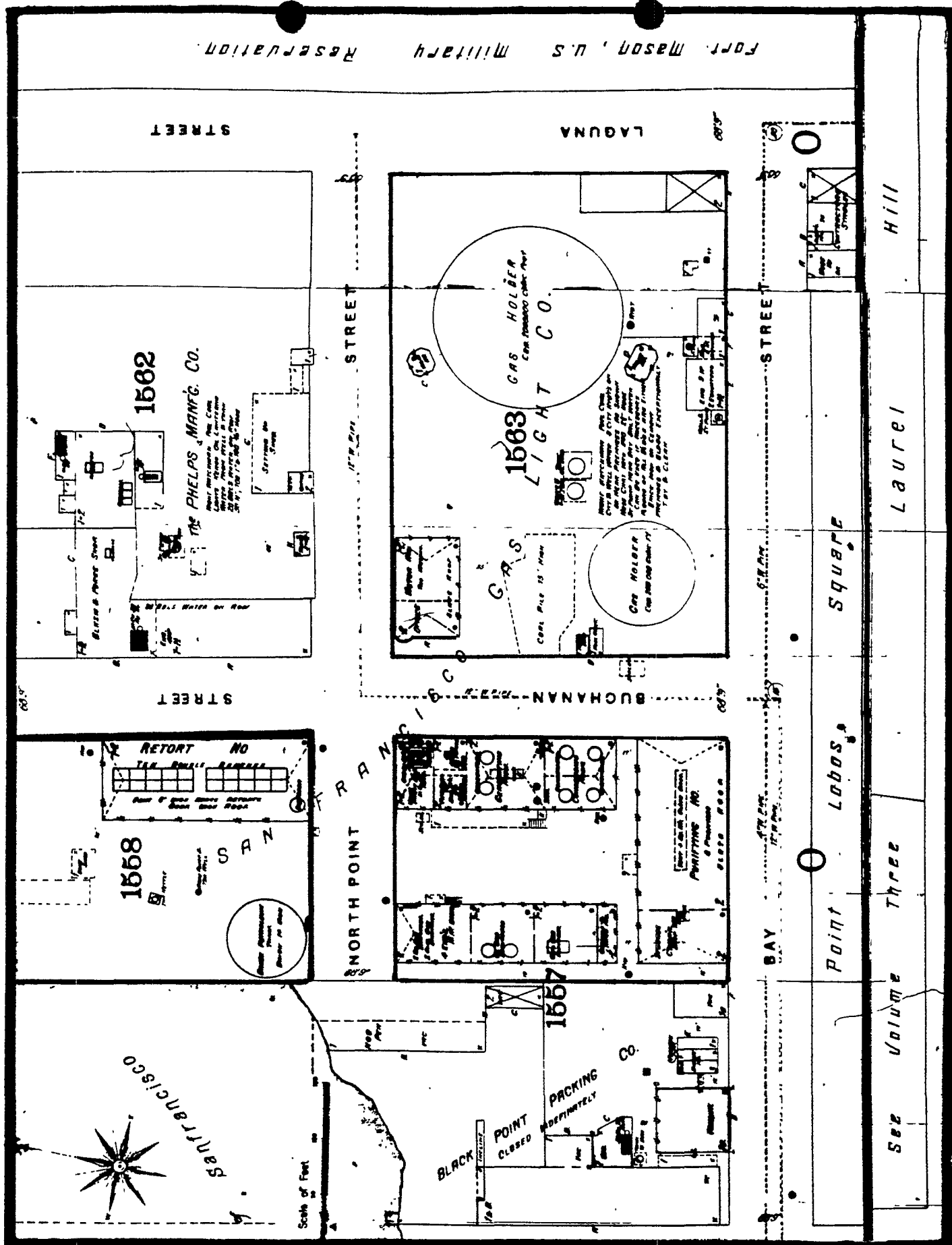
San Francisco Gas Plant (GG-SF-NOB) - Parcel Drawing
 (Keyed to Summary of Chain of Title)



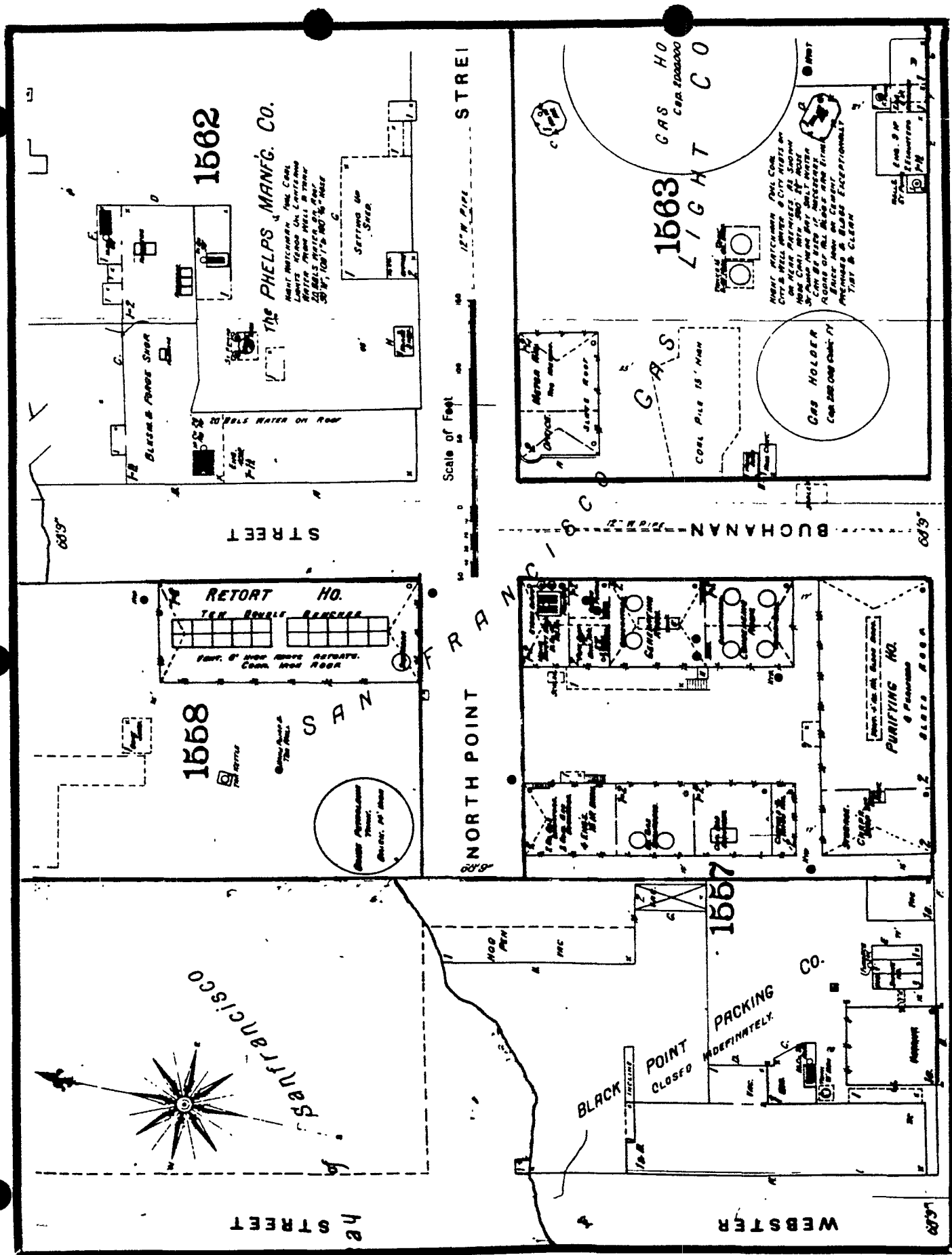


San Francisco Gas Plant (GG-SF-NOB) - Assessor's Parcel Map

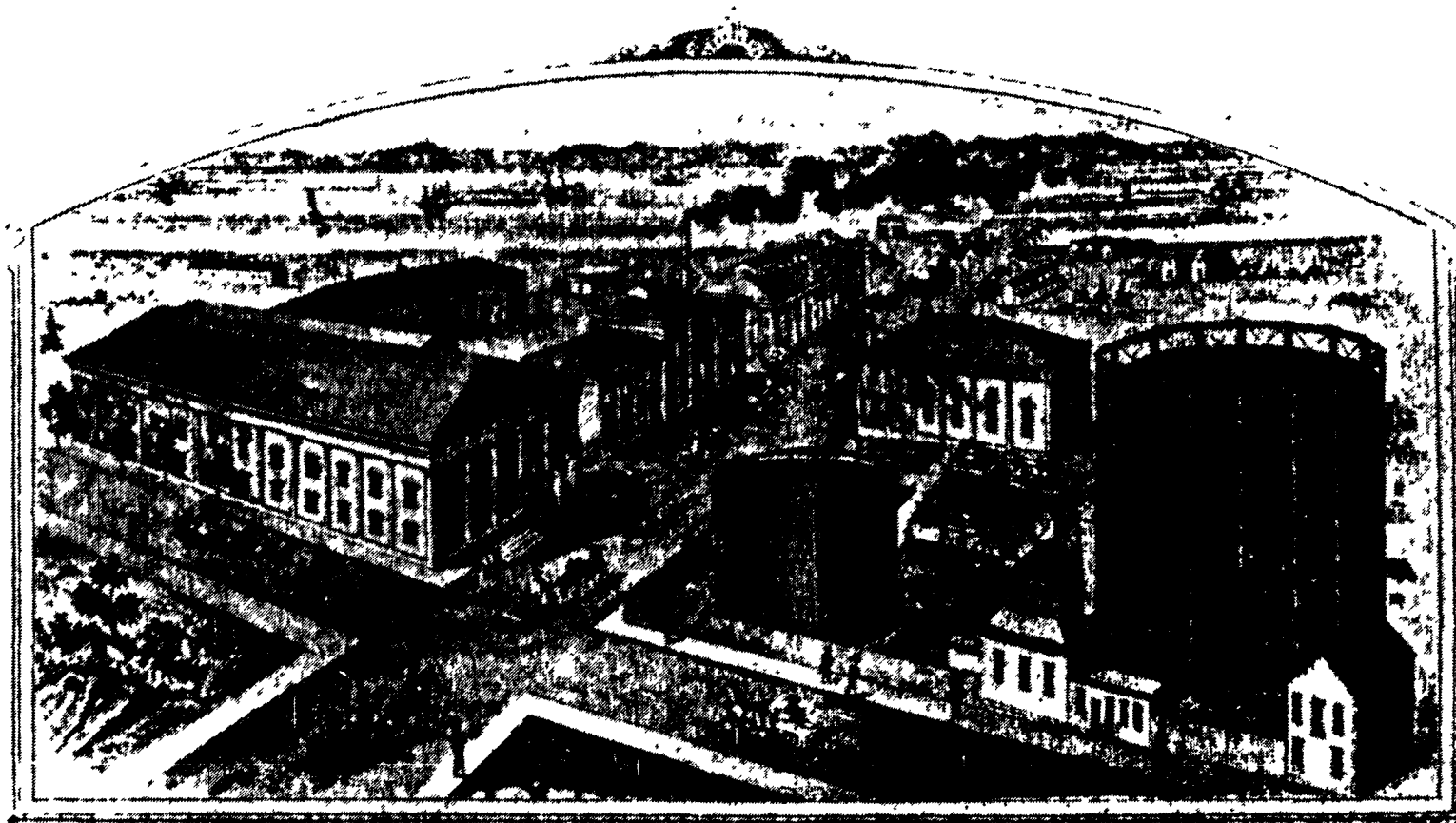
San Francisco Gas Plant (GG-SF-NOB) - Assessor's Parcel Map



San Francisco Gas Plant (GG-SF-NOB) - Sanborn Map 1893

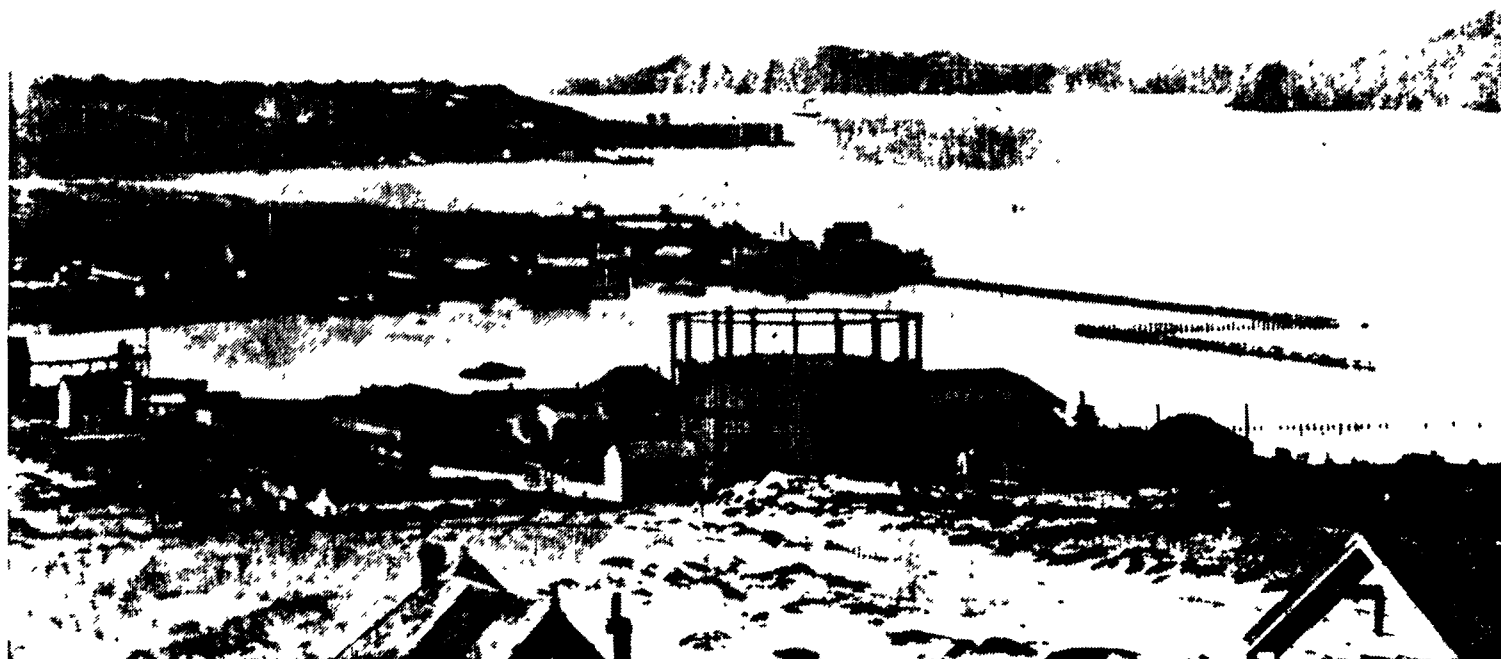


San Francisco Gas Plant (GG-SF-NOB) - Sanborn Map 1893



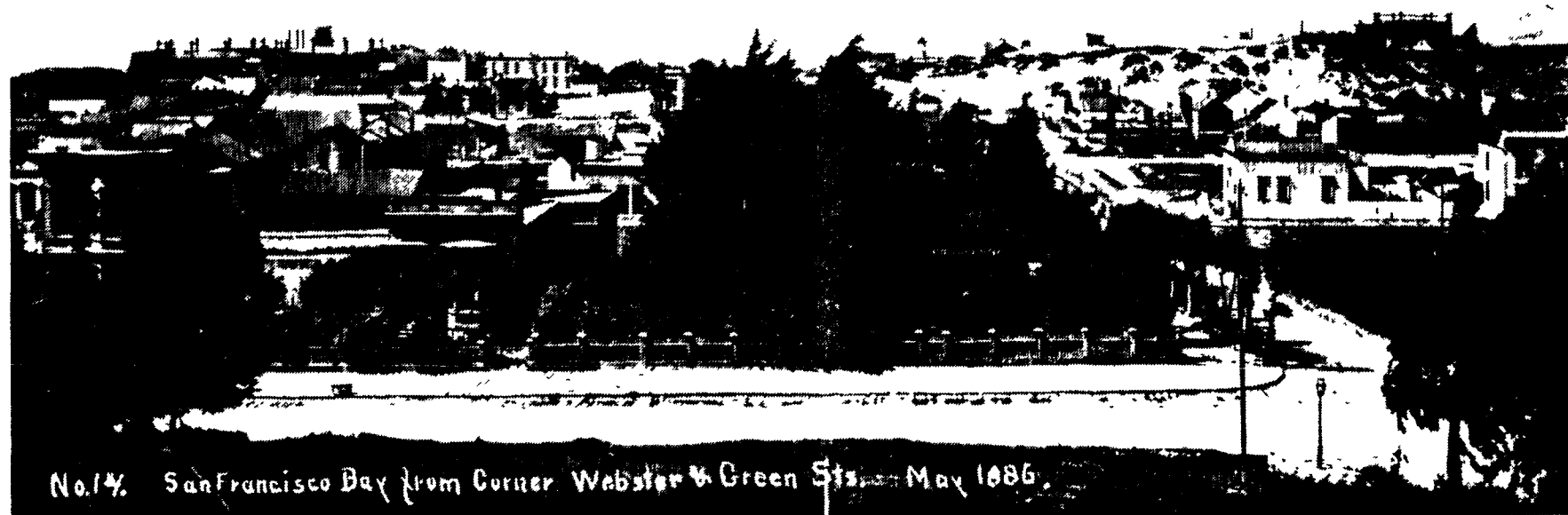
San Francisco Gas Light Company Gas Plant (GG-SF-MOB) (Photograph
#59774)

"The North Beach Gas Station. Built in 1891." Direction of view is north.
Date of illustration is undetermined.



San Francisco Gas Light Company Gas Plant (GG-SF-NOB) (Photograph #1504)

A view of Fort Point and the North Beach Street gas works in 1892. Direction of view is westerly. In 1892 the plant was operated by the San Francisco Gas and Electric Company.



No. 14. San Francisco Bay from Corner Webster & Green Sts. May 1886.

Pacific Gas Improvement Company Gas Plant (GG-SF-FIL)
 San Francisco Gas Light Company Gas Plant (GG-SF-NOB)

"San Francisco Bay from corner Webster and Green streets, May 1886."
 Pacific Gas Improvement Company's works are on the left. San Francisco Gas
 Light Company's gas holder on right at the future site of the North Beach
 works. View is to north. Used courtesy of the Bancroft Library. University of
 California, Berkeley.



Pacific Gas Improvement Company Gas Plant (OG-SF-FIL)
San Francisco Gas Light Company Gas Plant (OG-SF-MOS)

Looking west from Nob Hill towards Marina District and Presidio Circa 1905.
San Francisco Gas Light Company's North Beach works on the extreme right.
Pacific Gas Improvement Company's gas holder at the Fillmore site is in
center right of the photo. Used courtesy of the Bancroft Library. University
of California, Berkeley.



San Francisco Gas Light Company Gas Plant (GG-SF-WOE)

"North Beach from Stockton and Lombard May 3, 1906." Earthquake and fire destruction. The (then) PG&E North Beach plant site is on the left side of the photo. View is to the north. Used courtesy of the Bancroft Library, University of California, Berkeley.

SITE CHARACTERISTICS

Site Uses

The PGandE-owned portion of the North Beach site in San Francisco is used as a PGandE substation. The site is unmanned, but one or two maintenance people use the site infrequently. The substation is completely fenced and locked. (See plan view and site photographs on the following pages.)

PGandE has not proposed any future development for this site.

Adjacent Land Use

The site is bordered by a large supermarket on the north, an apartment building and small commercial businesses on the south, and apartments, condominiums, small commercial businesses and restaurants on the west. The area is zoned neighborhood commercial.

PGandE is not aware of any planned development of the adjacent land. Because of the neighborhood's maturity, it is unlikely that the current land uses will change in the future.

Drainage Patterns

Site drainage is toward San Francisco Bay into the municipal storm drain system.

Geology

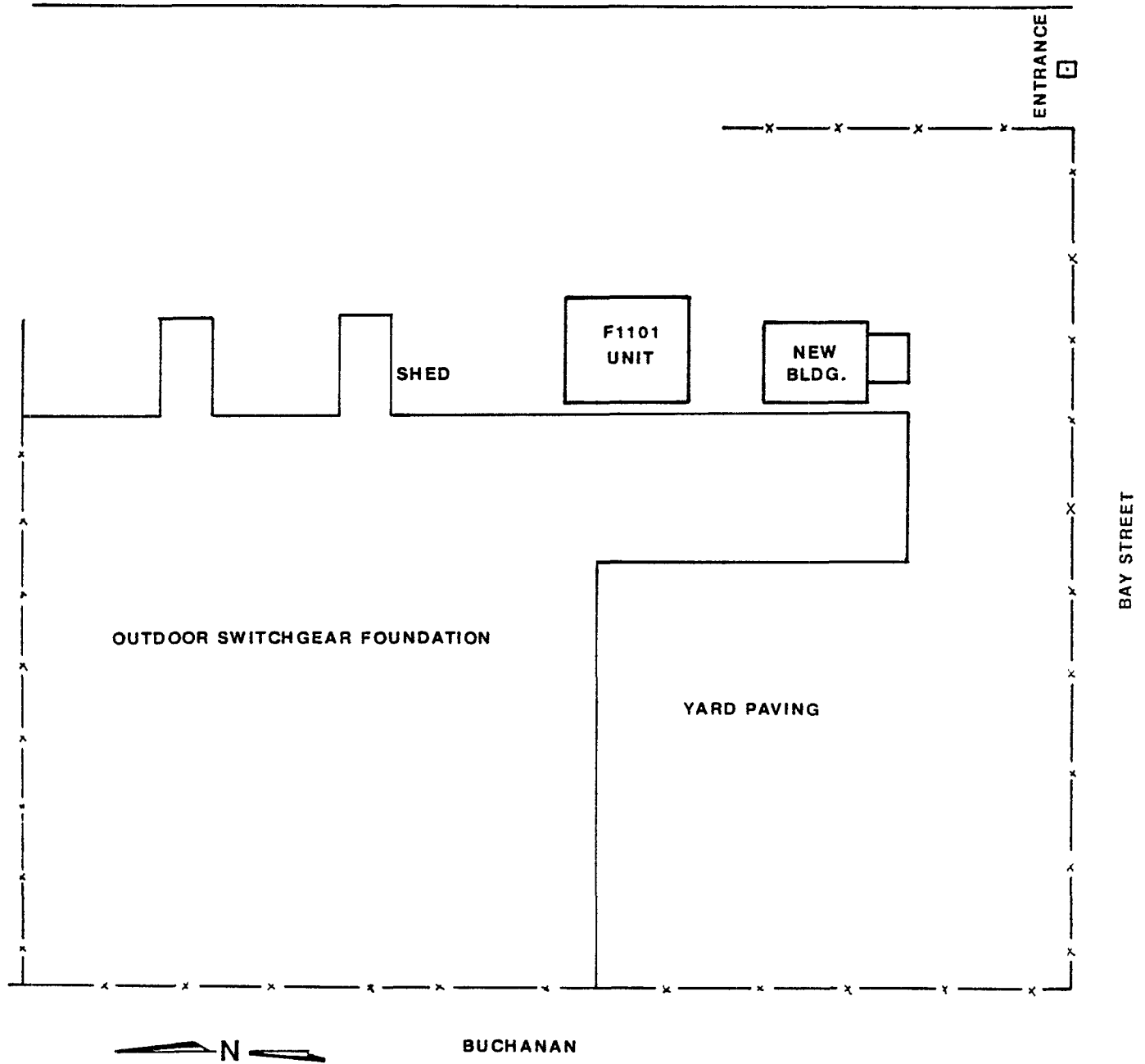
The geology underlying the site consists of the Dune Sands formation, which underlies the Bay Muds formation. The Dune Sands formation is a clean, well-sorted, fine-to-medium sand with a maximum thickness of approximately 150 feet. The Bay Muds unit is a sequence of estuarine deposits composed primarily of silt and clay interlayered with fine sand, and generally producing very little water. No information is available concerning water quality in the Dune Sands unit. Groundwater quality is generally poor in the area.

Exposed Surface Soil

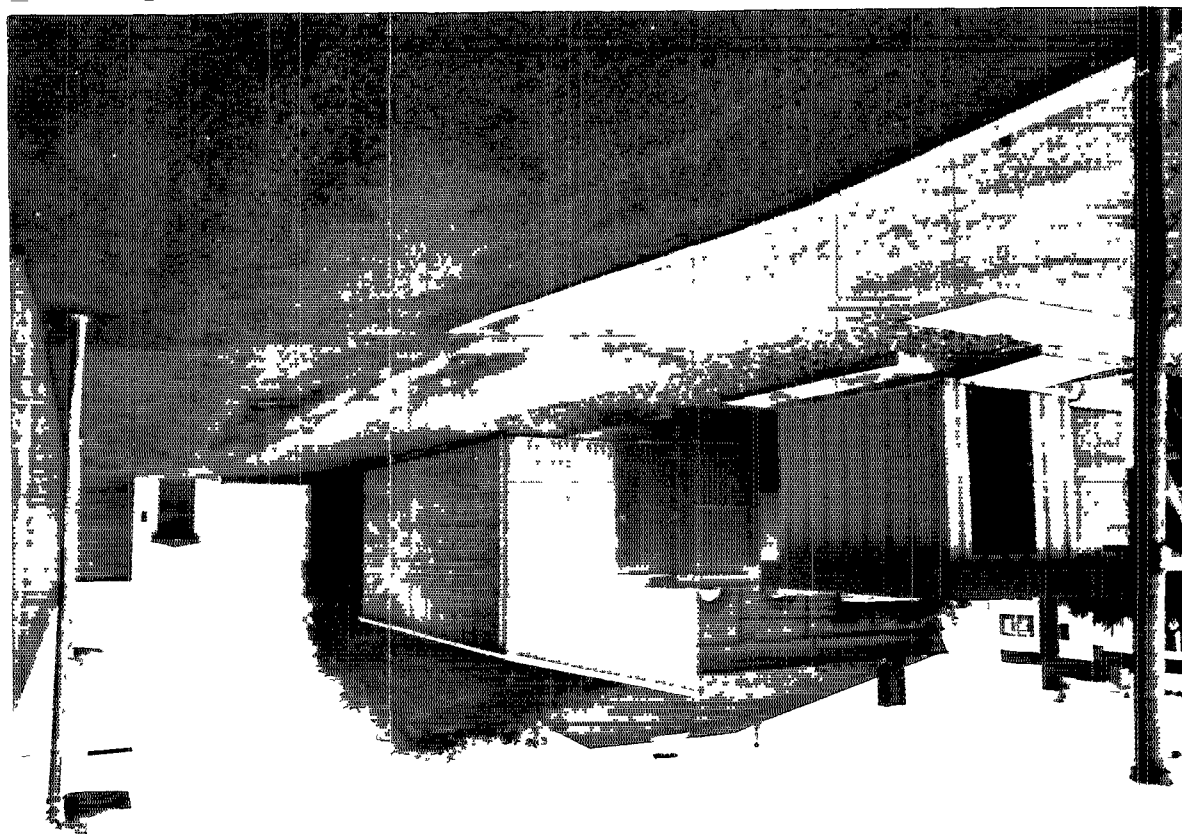
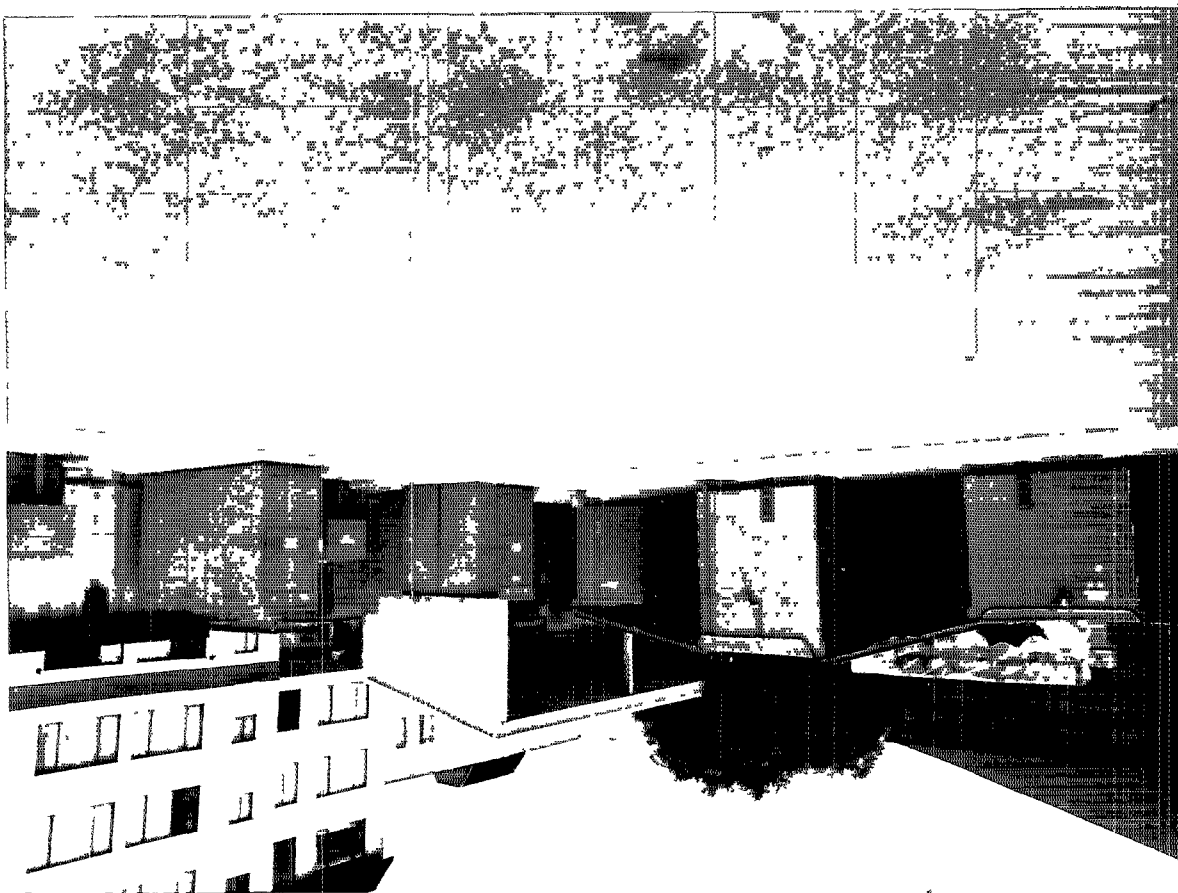
There is no exposed surface soil at the site; it has been completely covered with asphalt. Therefore, no soil samples were collected.

PLAN VIEW

APTS.



SAN FRANCISCO (GG-SF-NOB)



Photograph of the present Marine Substation Yard

Surface Water

Gas House Cove, which opens into San Francisco Bay, is located 0.2 miles north of the site. This part of the San Francisco Bay has been designated Central San Francisco Bay.

Beneficial uses of Central San Francisco Bay are industrial service supply, navigation, contact and non-contact recreation, ocean commercial and sport fishing, wildlife habitat, preservation of rare and endangered species, marine habitat; fish migration and spawning, shellfish harvesting (SWRCB, 1975).¹

San Francisco Bay is a saline body of water. Therefore, it is not suitable for municipal and domestic supply, nor for other freshwater uses. However, the water quality of Central San Francisco Bay appears to be sufficient for the other uses indicated above, with some notable exceptions. Sediment quality is very poor and benthic animal populations sparse in the vicinity of major port facilities such as Hunters Point and Alameda. Acute degradation is often associated with petroleum products and heavy metals. Discharges in wharf areas often cause serious transient problems, resulting in occasional fish kills. These may be indicative of acute and chronic water quality problems. Thus, some of the most serious water quality problems in the Central Bay are localized in nature.

Because the site is near wharfs, ports, and other "hot spots", the water quality in the vicinity of the site is probably considerably poorer than in the middle of the bay. In the Central Bay, dissolved oxygen levels are consistently higher than 7.0 mg/l and minimum dissolved oxygen levels are greater than 6.0 mg/l, with saturation values generally greater than 85 percent (SWRCB, 1975; Miller, 1986).¹

¹ References

Miller, William J. (B.J.), The State of San Francisco Bay:
A Report for the Bay Area Dischargers Association,
March 1986.

State Water Resources Control Board (California) (SWRCB),
San Francisco Bay Regional Water Quality Control
Board. Water Quality Control Plan: San Francisco
Bay Basin, Part II, Sacramento, CA. April 1975.

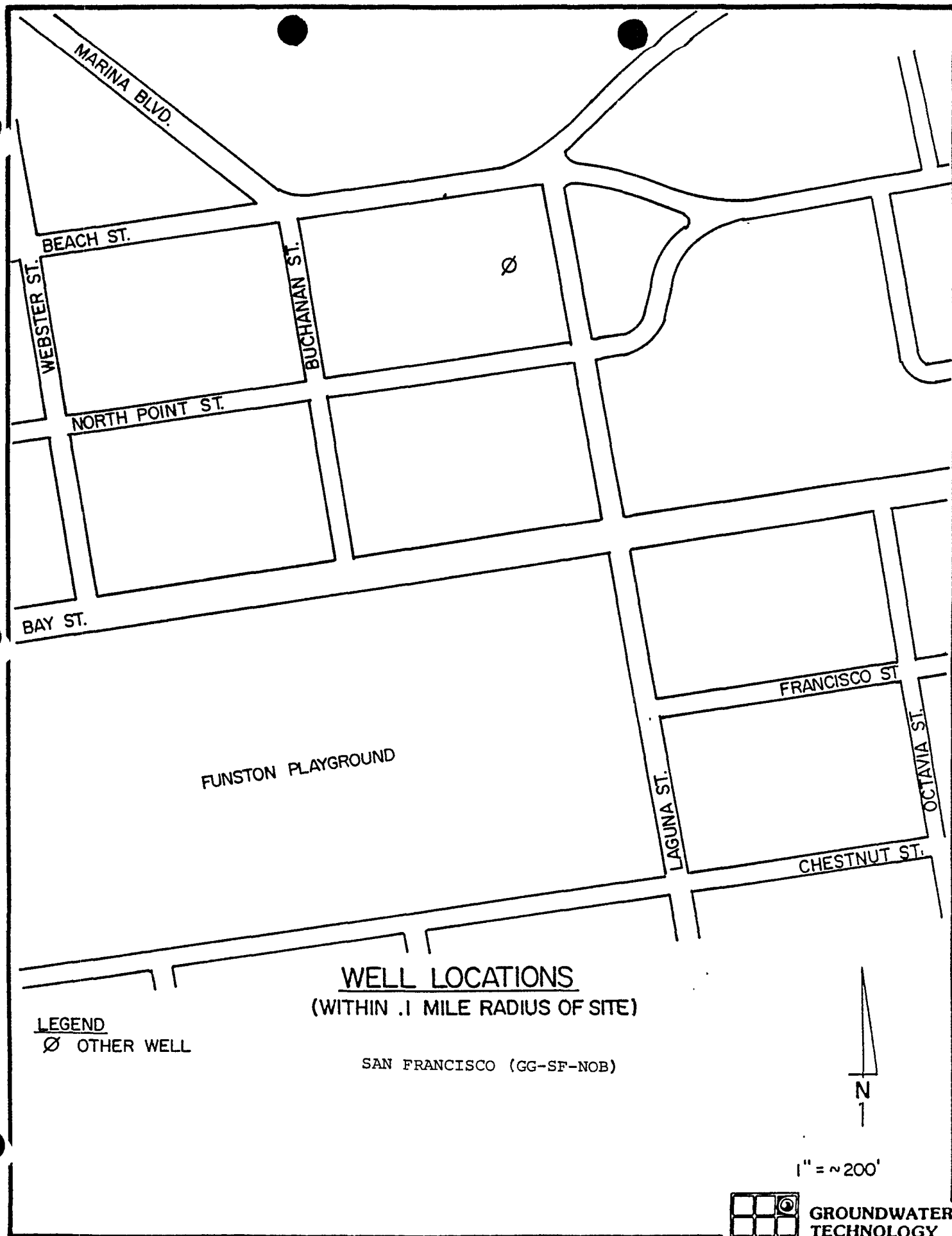
Groundwater

The site is located within the San Francisco Dune Sands Groundwater Basin. The basin is drained by local streams, with recharge occurring primarily through infiltration of rainwater.

According to Department of Water Resources records, there are no water wells in the area surrounding the site. However, there are eight cathodic protection wells within one mile of the site. The closest well is approximately 0.1 mile north of the site. Refer to the map on the following page for the location of the well.

Video

The North Beach site can be viewed on the Manufactured Gas Plant video. Refer to the page following the Well Location Map to find where this site is located on the video.



FORMER MANUFACTURED GAS PLANT SITE VIDEO

SITE SEQUENCE

| <u>No.</u> | <u>Site</u> | <u>Site Designation</u> |
|------------|---|-------------------------|
| 1 | Oakland | EB-CN-OAK-1 |
| 2 | Potrero Warehouse, adjacent to Potrero | GG-SF-APT |
| 3 | Potrero | GG-SF-POT |
| 4 | Station T | GG-SF-STT |
| 5 | Daly City | GG-SM-DAC |
| 6 | North Beach | GG-SF-NOB |
| 7 | Fresno-1 | SQ-FR-FRS-1 |
| 8 | Fresno-2 | SQ-FR-FRS-2 |
| 9 | Stockton | SQ-SK-STK |
| 10 | Oakdale | SQ-ST-OKD |
| 11 | Merced | SQ-YO-MER |
| 12 | Tracy | SQ-SK-TRA |
| 13 | Selma | SQ-FR-SEL |
| 14 | Madera | SQ-YO-MAD |
| 15 | Modesto | SQ-ST-MOD-2 |
| 16 | Sacramento | SV-SA-SAC-1 |
| 17 | Redding | SV-SH-RED |
| 18 | Colusa | SV-CG-COL |
| 19 | Willows | SV-DS-WIL |
| 20 | Chico | SV-DS-CHI-1 |
| 21 | Marysville | SV-CG-MRY-1 |
| 22 | Eureka | RR-HM-EKA-1 |
| 23 | Petaluma | RR-SR-PET-1 |
| 24 | St. Helena | RR-VN-STH |
| 25 | Santa Rosa | RR-SR-SRO-1 |
| 26 | San Luis Obispo | MT-LP-SLO-1 |
| 27 | San Jose | MT-SF-SJO-1 |
| 28 | Monterey | MT-CV-MNT-1 |
| 29 | Salinas | MT-CV-SAL |
| 30 | Watsonville-2 | MT-CO-WAT-2 |
| 31 | Watsonville-1 | MT-CO-WAT-1 |
| 32 | Hollister | MT-CV-HOL |

TESTING METHODS

Surface Soil

Since there was no exposed soil at the site, no tests were performed.

Potable Water Wells

Since there were no potable water wells within 500 feet of the site, no tests were performed.

ANALYTICAL RESULTS

Results of Surface Soil Testing

No exposed surface soil exists at this site; soil samples were not taken.

Results of Potable Water Well Testing

No potable water wells exist within 500 feet of the site; potable water well samples were not taken.

SITE ASSESSMENT

As discussed previously, this preliminary site assessment is designed to indicate whether or not interim site management measures are needed to eliminate potential surface or potable water exposure risks, as well as to assist in selecting sites for further characterization.

In evaluating exposure risks, consideration was given first to whether or not gas manufacturing residues were present in site surface soils or in water from nearby potable water wells. Next, the accessibility of site surface soils, to both PGandE employees and the general public, was evaluated. Finally, any planned future uses of the site or adjacent parcels, particularly those involving soil disturbance, were examined to determine the potential impact on such uses from gas plant residues.

No surface soil or potable water exposure risks are posed by gas manufacturing residues, if any, at the North Beach site, as the site is completely covered and there are no potable water wells in the vicinity.

This site does not appear to warrant interim management measures or immediate in-depth characterization.